IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Pearce et al.	)
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For:	Mitigating Errors in a Distributed Speech Recognition Process	)
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Serial No.:	09/830,306	)
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Filed:	April 25, 2001	)
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Examiner:	Wozniak, J.	)
		)
Art Unit:	2626	)
		)

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REHEARING OF APPEAL NO. 2008-5318

The Applicant herein respectfully requests that the Board rehear Appeal No. 2008-5318, and correspondingly reconsider the portion of the decision related to claims 1, 13, 25 and 26 (which indirectly affects all of the other appealed claims), and the portion of the decision related to claims 11, 12, 23 and 24, which sustained the Examiner's rejection of the same, based upon new grounds having an articulated factual basis upon which the decision was rendered, which was misapprehended (claims 1, 13, 25 and 26), and based upon an articulated requirement which ignores other possible and permissible legal basis for challenging an obviousness type rejection (claims 11, 12, 23 and 24).

The present request is in response to the Board's Decision on Appeal having a decision date of May 7, 2009, wherein the Board affirmed the Examiner's conclusions concerning the articulated rejection of the claims, based upon the same art relied upon by the Examiner, but based upon new reasoning not previously applied.

The specific reasoning outlined in the Board's decision, which can not be reconciled with the underlying facts, and therefore are believed to be the basis of a misapprehension, is outlined in the Board's decision at page 5, lines 8-14 (claims 1, 13, 25 and 26), and at page 6, lines 12-16. More specifically, the noted section, immediately follows an expressed agreement by the Board with the appellants' position relative to the basis for rejection articulated by the Examiner (see page 5, line 2), but then the Board articulates alternative grounds for supporting the Examiner's original conclusion, but not the original basis supporting the original conclusion, alternative grounds which were not being raised by the Examiner, which accounts for the noted "absence of other arguments by appellants" (see page 5, line 15), as the only grounds for rejection that were being relied upon by the Examiner had been apparently overcome. One can not generally respond in advance to new grounds for rejections that have not yet been made and/or are not currently being raised.

However, the Board is perfectly entitled to raise new grounds for rejection, in which case the Appellant can either submit an appropriate amendment of the claims or a showing of facts relating to the claims so rejected, or both and have the matter reconsidered by the Examiner …, or the Appellant can request that the application be reheard under §41.52 by the Board of Patent Appeals and Interferences upon the same record, addressing the new grounds for rejection, stating with particularity the points believed to have been misapprehended or overlooked in rendering the decision (see 37 CFR 41.50(b)(1) and (2)). The appellants have chosen the latter.

In reviewing the new grounds for rejection raised by the Board, when viewed in its complete context, the new grounds are deficient in making known or obvious the features to which they are attributed. While the Board correctly notes that the applicability of KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, is entirely appropriate, Graham v. John Deere Co., 383 U.S. 1, continues to be very relevant in terms of the handling of obviousness type rejections. More specifically, it is still required to determine the scope and content of the prior art, and to determine the differences between the prior art and the claimed invention. This requires that a reference be considered in its entirety, including disclosures that teach away from the claims W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540.

In suggesting that Jeon et al., US Patent No. 5,673,363, makes known or obvious the feature of replacing one or more speech recognition parameters or the entire vector that has undergone a transmission error with copies of one or more corresponding speech recognition parameters from a different vector, corresponding to a different particular sampling time frame, received without error after said identified group of vectors, the Board relies upon the portion of Jeon et al., '363, corresponding to the background discussion and Figures 3 and 4A. However, the same fails to make known or obvious replacement of the received speech recognition parameters, instead the replacement involves a received compressed audio signal after it has been decoded, as opposed to the signal received. As such, it is not the received vector of speech recognition parameters that is replaced either fully or partially from a different vector received without error, but it is the decoded form of the received signal that is used, where the decoding is not part of receiving the signal, and the decoded signal is no longer in the form of the signal within which the error was detected.

Furthermore, when you take the teachings of Jeon et al., '363, as a whole, the reference in fact teaches away from the use of this particular technique, in so far as it exhibits disadvantages that the primary teachings of Jeon et al., '363, is intended to address. More specifically, see the paragraph beginning at col. 2, line 21, which concludes with the last two sentences of the paragraph that "… it is not proper that a signal of frame F2 which is not reconstructed due to error occurrence is concealed by simply reproducing the previous frame F1. Moreover, when the audio signal of frame F2 varies much differently from frame F1, signal reproduction of a total frame is not much further proper." Consequently, as opposed to providing a teaching which one would be led to combine with any further teaching, the particular reference holds the relied upon portions, as an example of what not to do, so as to make the alleged combination in support of an obviousness type rejection most inappropriate. As such, one skilled in the art would not be motivated to combine the references as suggested by the Board in support of maintaining an obviousness type rejection.

Still further with respect to at least claim 1, of the present application, the relied upon technique involves the use of a replacement decoded signal received without error prior to the

portion that was received with error, as opposed to a replacement portion that was received "after said identified group of vectors".

As such, one would not have been motivated to combine the teachings as suggested by the Board, and even if one did it still would not make known or obvious each and every feature of the claims.

With respect to the Board's handling of claims 11, 12, 23 and 24, the Board erred in not properly addressing the appellants' arguments. More specifically, the Board appears to dismiss the argument in so far as the applicant did not specifically address the appropriateness of combining the references. But that is not the only basis upon which a proper obviousness type rejection is formulated. While one leg of properly formulating such a rejection includes a determination as to whether there is a proper motivation to combine, a further leg of properly formulating an obviousness type rejection includes whether the combined teaching makes known each and every limitation (feature) of the claims. In formulating appellant's specific remarks relative to this particular objection, the applicant addressed the latter and continues to contend, that even if one were to combine the references as suggested, the combined teaching would still fail to make known or obvious determining one or more threshold levels relative to the predicted values, and identifying vector groups as having undergone a transmission error responsive to a weighted analysis of how many speech recognition parameters in a vector group are outside of each of said one or more threshold levels (claim 11). The references are silent as to the concept of "how many" as a determination of transmission error. The Board ignores this articulated distinction, by suggesting a criteria of appropriateness for arguing against a rejection of obviousness, that appears to ignore the fact that a combined teaching is still tasked with making known or obvious each and every feature including how the claimed features interact to make known the claim. As such, the Board failed to consider a point of distinction, that directly bears upon a finding of obviousness that was properly presented.

In other words, there is never a determination of how many parameters are outside each of the one or more threshold levels for purposes of determining whether a transmission vector has been received in error, and therefore the combination of references can not be said to make

known or obvious such a determination (of how many), as a decision making criteria. Nor would one be led to incorporate such a feature as part of a combined teaching with several other references, when the particular individual reference, namely Yeldener et al., US Patent No. 5,774,837, tasked with teaching the feature fails to do so. Such a feature is simply not accounted for with any express or implied teaching, as it is not enough to say that the relied upon reference does not preclude the possibility of such a further feature. The reference must make known each and every feature of the claims.

Because the grounds upon which the Board's new rejection of claims 1, 13, 25 and 26, and indirectly the other claims which depend therefrom, were misapprehended, and the fact that the Board failed to consider the basis upon which the rejection of claims 11, 12, 23 and 24 were additionally being disputed, a request for a rehearing of the present appeal would appear to be appropriate. Furthermore, given the above analysis, it would further appear appropriate that the Examiner's decision to finally reject claims 1, 3, 4, 6, 7, 11-13, 15, 16, 18, 19 and 23-26, should be reversed.

Respectfully submitted,

BY: /Lawrence Chapa/
Lawrence J. Chapa
Reg. No. 39,135
Phone No.: (847) 523-0340

Motorola, Inc.
Mobile Devices
Intellectual Property Department
600 North US Highway 45, W4 35Q
Libertyville, IL 60048

APPENDIX OF CLAIMS

The following is the text of the claims involved in this appeal:

1. A method of mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location;

the method comprising the steps of:

identifying a group comprising one or more of said vectors which have undergone a transmission error; and

replacing one or more speech recognition parameters in the identified group of vectors, wherein said one or more speech recognition parameters in said identified group of vectors are replaced by respective replacement parameters corresponding to copies of one or more corresponding speech recognition parameters from a different vector, corresponding to a different particular sampling time frame, received without error after said identified group of vectors.

2. (canceled)

3. A method of mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location;

the method comprising the steps of:

identifying a group comprising one or more of said vectors which have undergone a transmission error; and

replacing one or more speech recognition parameters in the identified group of vectors, wherein all the speech recognition parameters of each vector of said group are replaced by replacing the whole vectors, and each respective replaced whole vector is replaced by a copy of whichever of the preceding or following different vector, corresponding to a different particular sampling time frame is received without error and is closest in receipt order to the vector being replaced.

4. A method according to claim 3, wherein a mode of transmission and a mode of error detection are such that said identified group comprises a pair of consecutive vectors, such that the first vector of said pair is replaced by the second vector of a preceding vector without error and the second vector of said pair is replaced by the first vector of a following vector without error.

5. (canceled)

6. A method according to claim 1, wherein determination of which speech recognition parameter or parameters are to be replaced is performed by predicting, from vectors received without error, a predicted value for each speech recognition parameter within said identified group of vectors, and replacing those speech recognition parameters within the identified group of vectors which are outside of a predetermined threshold relative to their respective predicted value.

7. A method according to claim 6, wherein if more than a specified number of speech recognition parameters within said identified group of vectors are outside of their respective predetermined thresholds then all the speech recognition parameters of said identified group of vectors are replaced.

8. (canceled)

9. A method of mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location, the method comprising the steps of:

identifying a group comprising one or more of said vectors which have undergone a transmission error; and

replacing one or more speech recognition parameters in the identified group of vectors, wherein said one or more speech recognition parameters in said identified group of vectors are replaced by respective replacement parameters corresponding to one or more speech recognition parameters from a different vector, corresponding to a different particular sampling time frame, received without error after said identified group of vectors;

wherein determination of which speech recognition parameter or parameters are to be replaced is performed by predicting, from vectors received without error, a predicted value for each speech recognition parameter within said identified group of vectors, and replacing those speech recognition parameters within the identified group of vectors which are outside of a predetermined threshold relative to their respective predicted value; and

wherein those speech recognition parameters which are within a predetermined threshold relative to their respective predicted value are compared with a set of reference vectors to find a best match vector from said set of reference vectors, and those speech recognition parameters which are outside of a predetermined threshold relative to their respective predicted value are replaced by corresponding speech recognition parameters from said best match vector.

10. A method according to claim 9, wherein speech recognition parameters from one or more neighbouring vectors are also compared with the set of reference vectors and the best match with respect to a plurality of consecutive reference vectors is chosen.

11. A method according to claim 1, wherein said step of identifying a group comprising one or more of said vectors which have undergone a transmission error includes a step of predicting respective predicted values for said speech recognition parameters, determining one or more threshold levels relative to the predicted values, and identifying vector groups as having undergone a transmission error responsive to a weighted analysis of how many speech recognition parameters in a vector group are outside of each of said one or more threshold levels.

12. A method according to claim 1, wherein said step of identifying a group comprising one or more of said vectors which have undergone a transmission error includes a step of determining a difference between corresponding speech recognition parameters from different vectors within a vector group, and identifying a vector group having undergone a transmission error responsive to an analysis of how many of said differences are outside of a predetermined threshold level.

13. An apparatus for mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location;

the apparatus comprising:

means for identifying a group comprising one or more of said vectors which have undergone a transmission error; and

means for replacing one or more speech recognition parameters in the identified group of vectors, wherein said one or more speech recognition parameters in said identified group of vectors are replaced by respective replacement parameters corresponding to copies of one or more corresponding speech recognition parameters from a different vector, corresponding to a different particular sampling time frame, received without error after said identified group of vectors.

14. (canceled)

15. An apparatus for mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location;

the apparatus comprising:

means for identifying a group comprising one or more of said vectors which have undergone a transmission error; and

means for replacing one or more speech recognition parameters in the identified group of vectors, wherein all the speech recognition parameters of each vector of said group are replaced by replacing the whole vectors, and each respective replaced whole vector is replaced by a copy of whichever of the preceding or following different vector, corresponding to a different particular sampling time frame is received without error and is closest in receipt order to the vector being replaced.

16. An apparatus according to claim 15, wherein a mode of transmission and a mode of error detection are such that said identified group comprises a pair of consecutive vectors, such that the first vector of said pair is replaced by the second vector of a preceding vector without error and the second vector of said pair is replaced by the first vector of a following vector without error.

17. (canceled)

18. An apparatus according to claim 13, wherein determination of which speech recognition parameter or parameters are to be replaced is performed by predicting, from vectors received without error, a predicted value for each speech recognition parameter within said identified group of vectors, and replacing those speech recognition parameters within the identified group of vectors which are outside of a predetermined threshold relative to their respective predicted value.

19. An apparatus according to claim 18, wherein if more than a specified number of speech recognition parameters within said identified group of vectors are outside of their respective predetermined thresholds then all the speech recognition parameters of said identified group of vectors are replaced.

20. (canceled)

21. An apparatus for mitigating errors in a distributed speech recognition process, the distributed speech recognition process being one in which speech recognition parameters are arranged in vectors, each vector corresponding to a particular sampling time-frame, and said speech recognition parameters are received at a second location having been transmitted from a first location, the apparatus comprising:

means for identifying a group comprising one or more of said vectors which have undergone a transmission error; and

means for replacing one or more speech recognition parameters in the identified group of vectors, wherein said one or more speech recognition parameters in said identified group of vectors are replaced by respective replacement parameters corresponding to one or more speech recognition parameters from a different vector, corresponding to a different particular sampling time frame, received without error after said identified group of vectors;

wherein determination of which speech recognition parameter or parameters are to be replaced is performed by predicting, from vectors received without error, a predicted value for each speech recognition parameter within said identified group of vectors, and replacing those speech recognition parameters within the identified group of vectors which are outside of a predetermined threshold relative to their respective predicted value; and

wherein those speech recognition parameters which are within a predetermined threshold relative to their respective predicted value are compared with a set of reference vectors to find a best match vector from said set of reference vectors, and those speech recognition parameters which are outside of a predetermined threshold relative to their respective predicted value are replaced by corresponding speech recognition parameters from said best match vector.

22. An apparatus according to claim 21, wherein speech recognition parameters from one or more neighbouring vectors are also compared with the set of reference vectors and the best match with respect to a plurality of consecutive reference vectors is chosen.

23. An apparatus according to claim 13, wherein said means for identifying a group comprising one or more of said vectors which have undergone a transmission error includes means for predicting respective predicted values for said speech recognition parameters, means for determining one or more threshold levels relative to the predicted values, and means for identifying vector groups as having undergone a transmission error responsive to a weighted

analysis of how many speech recognition parameters in a vector group are outside of each of said one or more threshold levels.

24. An apparatus according to claim 13, wherein said means for identifying a group comprising one or more of said vectors which have undergone a transmission error includes means for determining a difference between corresponding speech recognition parameters from different vectors within a vector group, and means for identifying a vector group having undergone a transmission error responsive to an analysis of how many of said differences are outside of a predetermined threshold level.

25. An apparatus according to claim 13, wherein said speech recognition parameters are transmitted from said first location to said second location over a radio communications link.

26. A method according to claim 1, wherein said speech recognition parameters are transmitted from said first location to said second location over a radio communications link.

27-30. (canceled)